5.0 Evaluation of Future Systems and Ranking

Since the proposed concepts (Section 4) differ in approach, complexity, technical risk, and utility, a system to select the most promising was put in place. After referring to the charter (Appendix A) and much discussion among the panel members, it was agreed that the following items would be included in the evaluation:

A. Mobility Mission Enhancement
B. Supportability and Training
C. Affordability
D. Technology availability by 2020
E. Commercial development and dual use.

The following weighting was proposed:

A =40%
B =12%
C =20%
D =20%
E =8%

All ten panel members made recommendations which were then averaged, yielding the following revised weighings:

A =40%
B =15%
C =20%
D =15%
E =10%

Next, the panel members were asked to evaluate all the concepts of Section 4 using the final weightings and to provide their prioritized list. These lists were combined giving equal weight to each member's input. The results of this exercise are shown in Table 5.0-1.

Finally, a review of these results was conducted by the whole panel. This was a "sanity check" to make sure the right things were being exercised. As a result of this review it was decided to remove the Global Navigation System (GNS) concept since it was basically existing technology. There was agreement that GNS was vital to mobility missions and that we should support it. However, it was felt that GNS no longer qualified as revolutionary technology.

The evaluation put Virtual Reality Training as Number 4 and Directed Energy Self- Defense as Number 5. This was questioned by several members. It was agreed they should be reversed; but that the number of selected systems to be covered in detail (Section 6) should be set at five to include Virtual Reality. In addition, the Virtual Reality concept should be expanded to cover all applications rather than just training. The final rankings are shown in Table 5.0-2.

Table 5.0-1: Mobility Application Panel Topics - Voted Order

Original Order	Project	Sum	Avg	Variance	Median	Voted Priority
3	Information dominance system	19	1.90	.49	2.	1
1	Global range transport	31	3.10	5.49	2.5	2
7	Precision/large scale airdrop	53	5.30	8.21	4.	4
9	Directed energy defensive system	76	7.60	16.24	7.5	6
8	Virtual reality applications	71	7.10	23.69	5.	5
5	Global navigation system	49	4.90	13.09	5.	3
2	Supersonic military transport	78	7.80	11.16	7.5	7
11	Containerization, intermodal system	94	9.40	19.64	9.	8
17	Improved refueling system	96	9.60	14.84	8.5	9
15	Dual fuselage transport	101	10.10	14.69	9.5	10
6	Enhanced material handling equipment	109	10.90	33.09	7.5	11
18	VTOL special operations	111	11.10	4.49	12.	12
10	Unmanned transport	125	12.50	6.25	12.5	13
14	Stealth transport	133	13.30	18.01	14.5	14
19	Sea based transport	138	13.80	20.56	13.5	15
4	Wing in ground effect (WIG) transport	140	14.00	10.00	14.5	16
16	Modular transport aircraft	150	15.00	3.00	16.	17
13	Air refueling transfer craft	160	16.00	8.20	17.	18
12	Rocket transport	166	16.60	3.84	17.	19

Table 5.0-2: Final System Ranking

1	**Information dominance system**
2	**Global range transport**
3	**Precision/large scale airdrop**
4	**Directed energy self-defense system**
5	**Virtual reality applications**
6	**Supersonic military transport**
7	**Containerized, intermodal system**
8	**Improved refueling system**
9	**Twin fuselage transport**
10	**Advanced material handling equipment**
11	**VTOL special operations**
12	**Unmanned transport**
13	**Stealth transport**
14	**Sea-based transport**
15	**Wing in ground effect transport**
16	**Modular transport aircraft**
17	**Air refueling transfer craft**
18	**Rocket transport**